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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference<br>30439-WO-U  | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416) |  |
| International application No.<br>PCT/BE03/00013  | International filing date (day/month/year)<br>30.01.2003   | Priority date (day/month/year)<br>08.02.2002 |
| International Patent Classification (IPC) or both national classification and IPC<br>F04C29/02 |  |  |
| Applicant<br>ATLAS COPCO AIRPOWER, NAAMLOZE VENNOOTSCHAP                                       |  |  |

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.  
  
☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

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|---|--|
| Date of submission of the demand<br>08.08.2003  | Date of completion of this report<br>17.11.2003  |
| Name and mailing address of the international preliminary examining authority:<br> European Patent Office - P.B. 5818 Patentlaan 2<br>NL-2280 HV Rijswijk - Pays Bas<br>Tel. +31 70 340 - 2040 Tx: 31 651 epo.nl<br>Fax: +31 70 340 - 3016 | Authorized Officer<br>Lequeux, F<br>Telephone No. +31 70 340-4664<br> |

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/BE03/00013**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-16 as originally filed

**Claims, Numbers**

1-17 as originally filed

**Drawings, Sheets**

1/7-7/7 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

|                               |             |      |
|-------------------------------|-------------|------|
| Novelty (N)                   | Yes: Claims | 1-17 |
|                               | No: Claims  |      |
| Inventive step (IS)           | Yes: Claims | 1-17 |
|                               | No: Claims  |      |
| Industrial applicability (IA) | Yes: Claims | 1-17 |
|                               | No: Claims  |      |

**2. Citations and explanations**

**see separate sheet**

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**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/BE03/00013

**Re Item V**

**~~Reasoned statement under Article 35(2) with regard to novelty, inventive step or~~  
industrial applicability; citations and explanations supporting such statement**

Document US-A-4431390 (D1), which discloses an oil-injected screw compressor with all the features of the preamble of independent claim 6 and a control method thereof as described in the preamble of independent claim 1, is to be considered as the closest prior art with regard to claims 1-17.

The problem to be solved is to avoid the occurrence of an insufficient injection pressure of lubricant to the compressor chamber, regardless of the state of the oil-cooler bypass, when the compressor switches from an unloaded to a loaded condition.

The solution to this problem is to control and to construct the oil-cooler bypass in such a way that the temperature-sensitive element of the bypass is, regardless of the temperature of the oil, temporarily switched off during the transition from the unloaded to the loaded condition of the compressor. Such features aren't disclosed in D1 nor in any other prior art document. Therefore the subject-matter of independent claims 1 and 6 and also of dependent claims 2-5 and 7-17 is new (Article 33(2) PCT).

D1 further discloses a bypass which can be switched off by a saturation parameters controlled valve. However as no hint about the particular use of the instantaneous conditions resulting from the switch from an unloaded to a loaded condition of the compressor instead of the saturation parameters is given in D1 nor in any prior art document and as it wouldn't be obvious to the skilled person to replace the one by the other, the subject-matter of independent claims 1 and 6 and also of dependent claims 2-5 and 7-17 involves an inventive step (Article 33(3) PCT).

The subject-matter of claims 1-17 is industrially applicable (Article 33(4) PCT).